



## Project Report December 8, 2006

### Strategic Plan

#### Objectives:

Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.

10 projects found

### 13310-A-165 - [Evaluation of the Effect of Columbia River Water Management on the Hanford Reach National Monument](#)

<b>Facility</b>	Columbia River Fisheries Program Office	<b>Accomplishment Summary</b>  Conducted additional habitat modeling and developed Reach-wide spawning habitat model. Completed spawning habitat modeling of Hanford Reach. Recommended operations to reduce juvenile mortality and improve productivity of spawning habitat for fall Chinook while maintaining flexibility for hydropower production. Coordinated with Tribes, States, and assisted with FERC relicensing.  <b>Description</b>  <b>The importance to the Resource:</b>  Hanford Reach NM was established in part to protect the last free-flowing section of the mainstem Columbia River in the US, and the internationally significant stock of fall Chinook salmon that spawn and rear there. Evaluation of the effect of water management for power production on stock productivity is required to maintain fishery benefits.  <b>The problem:</b>  Spawning habitat and production are degraded and millions of juvenile salmon are killed each spring as a result of hydropower operations. Realistic escapement goals cannot be determined because of compromised freshwater productivity. Habitat-based escapement goals have not yet been
<b>Expended</b>	\$41945	
<b>Objective</b>	Utilize appropriate scientific and technologic tools in formulating and executing fishery management plans and policies.	
<b>Primary Benefited Species</b>	Chinook salmon or king salmon ( <a href="#">Oncorhynchus tshawytscha</a> )	
<b>Primary Benefited Population</b>	<a href="#">Col. R. below Priest Rapids Dam - Hanford Reach Fall Chinook</a>	
<b>Plans</b>	Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy, 12/2000 (All H Paper) Pacific Salmon Treaty of 1999 Columbia River Basin Fish and Wildlife Program (NPPC 2000)	
<b>Keyword</b>	Native Species	
<b>Need Number</b>	N-002	
<b>Partners</b>	Alaska Department of	

	<p>Fish and Game (\$1000) American Rivers (\$1000) Columbia River Inter Tribal Fish Commission (\$2000) Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge (\$1000) Umatilla Tribe Upper Columbia Fish and Wildlife Office Yakama Indian Nation</p>	<p>determined and productivity and fishery benefits are being lost.</p> <p><b>The objective:</b></p> <p>The objective of the project is to assess the effect of water management, including hydropower operations, on the productivity of the habitat and on juvenile salmon mortality. Conditions evaluated range from stable, natural streamflows to current load following hydrographs that have resulted in lost productivity.</p> <p><b>The method:</b></p> <p>Physical, hydrodynamic, habitat, and biological models were developed in a GIS to conduct the assessment of water management effects. These models were used to quantify spawning and rearing habitat for a range of streamflows. They were also used to quantify juvenile salmon mortality under existing conditions, and to predict how to reduce mortality.</p> <p><b>Further description:</b></p> <p>Hanford Reach National Monument was established in part to protect the last free-flowing section of the mainstem Columbia River in the US, and the internationally significant stock of fall Chinook salmon that spawn and rear there. Hydropower operations cause hourly fluctuations in streamflow that compromise spawning habitat and production, and result in the death of millions of juvenile salmon each spring during the rearing period. This project developed recommendations for hydro operations during the spring to minimize juvenile salmon mortality, while maintaining flexibility for power production. A spawning habitat model was also completed and used to simulate the effect of streamflows and hydropower operations on spawning habitat. A process was developed to evaluate a range of</p>
<b>Accomplishments</b>		
Number of habitat assessments completed	2.0	
Number of miles of in-stream habitat assessed	51.0	
Number of population assessments completed	1	
Number of other Recovery Plan tasks implemented for T&E populations	1	
Number of other Fishery Management Plan tasks implemented for populations of management concern.	7	
Number of applied aquatic scientific and technologic tools shared with partners.	1	
Number of applied science and technology tasks implemented as prescribed by Fishery Management Plans. (PART)	1	

	<p>operational options to be implemented each season. Options were designed to accommodate both hydropower production and fish production. Technical assistance was provided to the FERC process for the relicensing of the upstream hydro project (Priest Rapids) to protect the Chinook salmon that use the Hanford Reach, to protect the other significant resources of the Hanford Reach National Monument, and maintain flexibility for power production.</p>
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**14330-A-039 - [Culvert Rehabilitation on Deep Creek, Panther Creek Watershed, Lemhi County, Idaho](#)**

Facility	Idaho Fisheries Resource Office
Expended	\$1
Objective	Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.
Primary Benefited Species	Bull trout ( <a href="#">Salvelinus confluentus</a> )
Primary Benefited Population	<a href="#">Middle Salmon-Panther</a>
Plans	Bull Trout Recovery Plan, Ch 17 Salmon RU
Keyword	Fish Passage
Need Number	N-002
Partners	Salmon-Challis National Forest (\$35000)

Accomplishments

Number of other Recovery Plan tasks implemented for T&E populations	1
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Accomplishment Summary

Funds once dedicated to this project are now being used to fund the Twin Creek Culvert replacement. The Twin Creek culvert is still in the original and currently valid agreement. Funds expected from the Federal Highways Fund for the Deep Creek project were rescinded by Washington Office USFS. Project design and environmental compliance documents have been finalized. Construction is on hold until additional funds are secured. Project is funded with \$65,000 FY05 funds.

Description

**The *importance* to the Resource:**

The Twin Creek drainage is a population stronghold for bull trout, steelhead and westslope cutthroat trout in the North Fork Salmon watershed.

**The *problem*:**

The existing culvert on Road #449 is a barrier to fish passage due to the high flow velocity and low flow depth through the culvert and outlet jump.

**The *objective*:**

Restore all life stages of fish passage and open up over 6 miles of fluvial fish habitat for the bull trout, steelhead, cutthroat trout, and potentially Chinook salmon and minimize sediment in Twin Creek presently generated by erosion downstream of the existing culvert.

**The *method*:**

The existing culvert will be replaced with either a bridge or open arch culvert, restoring historic

	access to habitat for bull trout, steelhead trout and cutthroat trout.
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**14330-A-040 - [Culvert Rehabilitation on Jackson Creek, Little Lost River Drainage, Custer County, Idaho](#)**

<b>Facility</b>	Idaho Fisheries Resource Office
<b>Expended</b>	\$1
<b>Objective</b>	Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.
<b>Primary Benefited Species</b>	Bull trout ( <a href="#">Salvelinus confluentus</a> )
<b>Primary Benefited Population</b>	<a href="#">Little Lost River</a>
<b>Plans</b>	Bull Trout Recovery Plan, Ch 19 Little Lost RU
<b>Keyword</b>	Fish Passage
<b>Need Number</b>	N-002
<b>Partners</b>	Salmon-Challis National Forest (\$20000)

**Accomplishments**

Number of miles re-opened to fish passage	2.0
Fish passage barriers removed or bypassed	1
Number of other Recovery Plan tasks implemented for T&E populations	1

**Accomplishment Summary**

Culvert was replaced in August 2006. This project is complete. Project was funded with \$39,800 FY05 funds, on-the-ground work was completed in FY06.

**Description**

**The *importance* to the Resource:**

Jackson Creek is currently occupied by a resident bull trout population and it is likely that fluvial bull trout historically used the stream for spawning and rearing.

**The *problem*:**

The culvert on Jackson Creek has been evaluated and found to be a complete barrier to fish passage. Thus the culvert has isolated a resident bull trout population above the culvert and also prevents fluvial bull trout from accessing the stream above the culvert.

**The *objective*:**

Restore access for resident and fluvial bull trout to the stream above the culvert

**The *method*:**

Replace the existing culvert with a larger baffled pipe

**14330-A-041 - [Culvert Rehabilitation on Timber Creek, Little Lost River Drainage, Custer County, Idaho](#)**

<b>Facility</b>	Idaho Fisheries Resource Office
<b>Expended</b>	\$1
<b>Objective</b>	Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.
<b>Primary Benefited Species</b>	Bull trout ( <a href="#">Salvelinus confluentus</a> )
<b>Primary Benefited Population</b>	<a href="#">Little Lost River</a>
<b>Plans</b>	Bull Trout Recovery Plan, Ch 19 Little Lost RU
<b>Keyword</b>	Fish Passage
<b>Need Number</b>	N-002
<b>Partners</b>	Salmon-Challis National Forest (\$5000)

### Accomplishments

Number of miles re-opened to fish passage	5.0
Fish passage barriers removed or bypassed	1
Number of other Recovery Plan tasks implemented for T&E populations	1

### Accomplishment Summary

Project design and environmental compliance documents are completed. Culvert retrofit will be completed in September 2006. Project was funded with \$30,000 FY05 funds, on-the-ground work was completed in FY06.

### Description

#### **The importance to the Resource:**

Timber Creek between the Little Lost River and Redrock Creek is occupied by resident bull trout and may serve as a spawning and rearing area and migratory corridor for fluvial bull trout.

#### **The problem:**

This culvert has been evaluated and is believed to restrict the upstream movement of small resident and fluvial bull trout.

#### **The objective:**

Restore upstream passage for resident and fluvial bull trout.

#### **The method:**

The existing culvert will be retrofitted with baffles that will function to create velocity refuges for upstream migrating bull trout.

**14330-A-044 - [Road #40101, Culvert Rehabilitation on Main Fork, Little Lost Watershed, Lemhi County, Idaho](#)**

<b>Facility</b>	Idaho Fisheries Resource Office
<b>Expended</b>	\$1
<b>Objective</b>	Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.
<b>Primary Benefited Species</b>	Bull trout ( <a href="#">Salvelinus confluentus</a> )
<b>Primary Benefited Population</b>	<a href="#">Little Lost River</a>
<b>Plans</b>	Bull Trout Recovery Plan, Ch 19 Little Lost RU
<b>Keyword</b>	Fish Passage
<b>Need Number</b>	N-002
<b>Partners</b>	Salmon-Challis National Forest (\$5000)

### Accomplishments

Number of miles re-opened to fish passage	10.0
Fish passage barriers removed or bypassed	1
Number of other Recovery Plan tasks implemented for T&E populations	1

### Accomplishment Summary

Project design and environmental compliance documents are completed. Culvert retrofit will be completed in September 2006. Project was funded with \$38,000 FY05 funds, on-the-ground work was completed in FY06.

### Description

#### **The *importance* to the Resource:**

The mainstem Little Lost River between Timber Creek and Smithie Fork is occupied by resident bull trout, serves as a spawning and rearing area for fluvial bull trout, and is used as a migratory corridor by fluvial bull trout.

#### **The *problem*:**

The lower of culvert on road #40101 has been evaluated and is believed to restrict the upstream movement of small resident and fluvial bull trout.

#### **The *objective*:**

Restore upstream access for resident and fluvial bull trout.

#### **The *method*:**

The existing culvert will be retrofit with baffles that will function to create velocity refuges for upstream migrating bull trout.

14330-A-054 - [Thomas Fork Rigby](#)

<b>Facility</b>	Idaho Fisheries Resource Office
<b>Expended</b>	\$1
<b>Objective</b>	Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.
<b>Primary Benefited Species</b>	Bonneville cutthroat trout ( <a href="#">Oncorhynchus clarkii utah</a> )
<b>Primary Benefited Population</b>	<a href="#">Bonneville cutthroat trout, Bear River, UT, ID, WY</a>
<b>Plans</b>	Range-wide Conservation Agreement and Strategy for Bonneville Cutthroate Trout(Oncorhynchus clarki utah).
<b>Keyword</b>	Fish Passage
<b>Need Number</b>	N-002
<b>Partners</b>	Bear Lake Regional Commission (\$1000) Faucet Irrigation Company (\$2100) Idaho Department of Fish and Game (\$3500) Trout Unlimited (\$12000)

## Accomplishments

Number of miles re-opened to fish passage	7.0
Fish passage barriers removed or bypassed	1

## Accomplishment Summary

One irrigation diversion was modified to incorporate a fish screen and upstream passage past the diversion. The loss of juvenile and post-spawning Bonneville cutthroat trout down the irrigation ditch was eliminated. All work has been completed. Project was funded with \$34,500 FY05 funds, on-the-ground work was completed in FY06.

## Description

### The *importance* to the Resource:

The Thomas Fork is a major spawning and rearing tributary for Bonneville cutthroat in the Bear River drainage.

### The *problem*:

The Mumford/Rigby Diversion blocks access to 80 miles of spawning habitat, and causes entrainment of both adults and juvenile Bonneville cutthroat trout.

### The *objective*:

Re-establish fish passage and prevent loss of Bonneville cutthroat down the irrigation ditch.

### The *method*:

Install fish passage and fish screen at the Rigby Diversion.

Number of other Fishery Management Plan tasks implemented for populations of management concern.	1	
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**14330-A-055 - [Thomas Fork Taylor Ditch](#)**

<b>Facility</b>	Idaho Fisheries Resource Office
<b>Expended</b>	\$1
<b>Objective</b>	Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.
<b>Primary Benefited Species</b>	Bonneville cutthroat trout ( <a href="#">Oncorhynchus clarkii utah</a> )
<b>Primary Benefited Population</b>	<a href="#">Bonneville cutthroat trout, Bear River, UT, ID, WY</a>
<b>Plans</b>	Fisheries Restoration and Irrigation Mitigation Act of 2000 (PL 106-502) Range-wide Conservation Agreement and Strategy for Bonneville Cutthroat Trout(Oncorhynchus clarki utah).
<b>Keyword</b>	Fish Passage
<b>Need Number</b>	N-002
<b>Partners</b>	Bear Lake Regional Commission (\$10000) McMurray Foundation (\$20000) Trout Unlimited (\$4000) Trout and Salmon Foundation (\$10000)

**Accomplishments**

Number of miles re-opened to fish	63.0
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**Accomplishment Summary**

One irrigation diversion was modified to incorporate a fish screen and upstream passage past the diversion. The loss of juvenile and post-spawning Bonneville cutthroat trout down the irrigation ditch was eliminated. All work has been completed. Project was funded with \$80,000 FY05 funds, on-the-ground work was completed in FY06.

**Description**

**The *importance* to the Resource:**

The Thomas Fork is a major spawning and rearing tributary for Bonneville cutthroat in the Bear River drainage.

**The *problem*:**

The Taylor Diversion blocks access to 80 miles of spawning habitat, and causes entrainment of both adults and juvenile Bonneville cutthroat trout.

**The *objective*:**

Re-establish fish passage and prevent loss of Bonneville cutthroat down the irrigation ditch.

**The *method*:**

Install fish passage and fish screen at the Rigby Diversion.

passage		
Fish passage barriers removed or bypassed	1	
Number of other Fishery Management Plan tasks implemented for populations of management concern.	1	

**13231-A-007 - [National Wild Fish Health Survey](#)**

<b>Facility</b>	Lower Columbia River Fish Health Center	<b>Accomplishment Summary</b>  <p>Surveyed over 1500 wild fish from 21 watersheds in WA, OR, ID and the Columbia River to evaluate disease and to prevent spread of aquatic pathogens for improved aquatic ecosystem management.</p> <b>Description</b>  <p><b>The <i>importance</i> to the Resource:</b></p> <p>Initiated by Congress in 1997 because wild fish populations were being decimated by disease, the National Wild Fish Survey gathers health information for wild fish to ascertain the extent of disease problems and ways to manage disease in the wild.</p> <p><b>The <i>problem</i>:</b></p> <p>Disease disables and kills wild fish. A limited knowledge of disease sources and their environmental inducers inhibits better management of habitat problems for wild fish.</p> <p><b>The <i>objective</i>:</b></p> <p>The 9 National Fish Health Ctrs undertook this project to survey the health of wild fish and to make this information available to federal, state, and tribal fishery managers. Information is used to improve fisheries management and monitor specific populations. The national database (<a href="http://wildfishsurvey@fws.gov">http://wildfishsurvey@fws.gov</a>) is available for public use.</p> <p><b>The <i>method</i>:</b></p> <p>In FY06, the Lower Columbia River FHC examined over 1500 wild fish from 21 watersheds in WA, OR, ID and the Columbia River. We tested for 13 pathogens (virus, bacteria, parasites) using state-of-the-art</p>
<b>Expended</b>	\$64977	
<b>Objective</b>	Facilitate management of aquatic habitats on national and regional scales.	
<b>Primary Benefited Species</b>	Rainbow trout ( <a href="#">Oncorhynchus mykiss</a> )	
<b>Primary Benefited Population</b>	<a href="#">Wind River summer run steelhead</a>	
<b>Plans</b>	<p>National Wild Fish Health Survey</p> <p>U.S. Fish and Wildlife Service National Aquatic Animal Health Policy</p> <p>Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy, 12/2000 (All H Paper)</p> <p>1999 NMFS Biological Opinion on Artificial Propagation in the Columbia River Basin.</p> <p>2000 NMFS FCRPS Biological Opinion - December 21, 2000</p> <p>Yakima Subbasin Plan</p>	
<b>Keyword</b>	Fish Health	
<b>Need Number</b>	N-002	
<b>Partners</b>	<p>Confederated Tribes of The Warm Springs</p> <p>Oregon Department of Fish and Wildlife</p> <p>U.S. Geological Survey</p>	

	(\$5000) Washington Department of Fish and Wildlife Yakama Indian Nation (\$900)	<p>technology to confirm presence/absence of disease in freshwater and seagoing fish.</p> <p><b>Further description:</b></p> <p>The National Wild Fish Health Survey was initiated by Congress in 1997 because wild fish populations were being decimated by disease and there was little information available on the extent of the problem and ways to manage disease in the wild. The 9 National Fish Health Ctrs undertook this project to survey the health of wild fish and to make this information available to federal, state, and tribal fishery managers. This year, the Lower Columbia River Fish Health Ctr, in cooperation with the Yakama Nation, extensively sampled over 10 fish species in Drano Lake, a popular fishing lake that also serves as nursery habitat for Chinook salmon, a resting area for salmonid adults migrating up the Columbia River and the inlet/outlet for the Little White Salmon Hatchery fish. In anticipation of Condit Dam removal, fish in the White Salmon River were sampled for future health comparisons. Information from the wild fish health surveys are used by state/federal agencies for Ecosystem Diagnosis models for improving aquatic resource management and by the various cooperators for monitoring specific populations of fish. The national database, a repository of all survey information, is available for managerial and public use.</p>
<b>Accomplishments</b>		
Number of population assessments completed	21	
Number of post-stocking survival tasks met, as prescribed by Recovery plans for hatchery propagated listed species. (PART)	1	
Number of other Recovery Plan tasks implemented for T&E populations	1	
Number of post stocking survival tasks met as prescribed by Fishery Management Plans, for hatchery propagated depleted species (PART)	1	
Number of other Fishery Management Plan tasks implemented for populations of management concern.	1	
Number of technical assistance requests fulfilled to support Tribal fish and wildlife conservation	3	
Number of applied aquatic scientific and technologic tools shared with partners.	1	
Number of techniques and culture technology tools developed.	1	
Number of applied science and technology tasks implemented as prescribed by Recovery Plans. (PART)	1	
Number of applied science and technology tasks implemented as prescribed by Fishery Management Plans. (PART)	2	

13231-A-026 - [Habitat enhancement and fish carcasses: disease concerns](#)

<b>Facility</b>	Lower Columbia River Fish Health Center	<p><b>Accomplishment Summary</b></p> <p>Enriched aquatic habitats and prevented spread of disease to wild fish by developing simple treatments to kill ""germs"" in fish carcasses used for nutrient enhancement in streams. Results were immediately useable in the field to help in interagency efforts to revitalize aquatic habitats in a manner consistent with the Endangered Species Act and NMFS Biological Opinions</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>In the past, the nutrients supplied by salmon returning to their natal streams were a key component in the web of insects, mammals and plants that all played an intertwining role in fish survival. The lack of returning salmon has created streams barren of nutrients needed to provide habitat for wild fish survival.</p> <p><b>The problem:</b></p> <p>The lack of returning salmon has created streams barren of nutrients needed to provide habitat for wild fish survival. To combat these losses, tribal, state and federal entities are using hatchery salmon carcasses to resupply vital nutrients to streams. However, they may also be transmitting pathogenic "germs" that might infect native fish.</p> <p><b>The objective:</b></p> <p>Simple methods, easily adaptable for field use, were tested to ascertain their effectiveness in killing fish germs. Goal is to allow the use of fish carcasses to help replenish nutrients to streams without the risk of disease dissemination.</p>
<b>Expended</b>	\$11400	
<b>Objective</b>	Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.	
<b>Primary Benefited Species</b>	Chinook salmon or king salmon ( <a href="#">Oncorhynchus tshawytscha</a> )	
<b>Primary Benefited Population</b>	<a href="#">Yakima River Summer/Fall-Run Chinook Salmon</a>	
<b>Plans</b>	<p>U.S. Fish and Wildlife Service National Aquatic Animal Health Policy</p> <p>1999 NMFS Biological Opinion on Artificial Propagation in the Columbia River Basin.</p> <p>Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy, 12/2000 (All H Paper)</p> <p>National Fish Habitat Action Plan</p> <p>Yakima Subbasin Plan</p>	
<b>Keyword</b>	Habitat	
<b>Need Number</b>	N-002	
<b>Partners</b>	<p>Washington Department of Fish and Wildlife</p> <p>Yakama Indian Nation</p>	

## Accomplishments

Number of other Recovery Plan tasks implemented for T&E populations	3
Number of other Fishery Management Plan tasks implemented for populations of management concern.	1
Number of applied science and technology tasks implemented as prescribed by Fishery Management Plans. (PART)	1

## The *method*:

The ""germ load"" of fish carcasses, before and after heating treatments, was measured using standard fish health protocols. Using these results, simple methodologies were developed for use by states, federal and tribal entities.

## Further description:

In the past, the nutrients supplied by salmon returning to their natal streams were a key component in the web of insects, mammals and plants that all played an intertwining role in fish survival. The lack of returning salmon has created streams barren of nutrients needed to provide habitat for wild fish survival. To combat these losses, tribal, state and federal entities are using hatchery salmon carcasses to resupply vital nutrients to streams. This strategy results in a dilemma: if diseased carcasses are used, there can be inadvertant transmittal of pathogenic germs to the native fish, many of which are endangered. Simple methods, easily adaptable for field use, will be tested to ascertain their effectiveness in killing fish germs. The ""germ load"" of fish carcasses, before and after freezing/heating treatments, were measured using standard fish health protocols. This information will prevent the spread of disease and follows the policies of the US Fish & Wildlife Service and the Pacific NW Fish Health Protection Committee. Results were immediately useable in the field to help in interagency efforts to revitalize aquatic habitats in a manner consistent with the Endangered Species Act and NMFS Biological Opinions.

**13231-A-028 - [White River Spring Chinook Salmon: Fish Health Care for Endangered Species Recovery Project](#)**

<b>Facility</b>	Lower Columbia River Fish Health Center	<p><b>Accomplishment Summary</b></p> <p>The 2005 progeny of the endangered White River spring Chinook salmon are successfully rearing in their first year at the Little White Salmon NFH. Fish health, as measured by bi-weekly exams and special tests, show that this stock of salmon is doing well, with only minor incidence of bacterial kidney disease. A MOU with the Grant Co. Public Utility District for the care of these fish was achieved.</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>The White River spring Chinook salmon are listed as endangered. A scant 14 pairs of spawning adults were noted in past years in this upper Columbia Basin river.</p> <p><b>The problem:</b></p> <p>Deteriorating habitat, warm water conditions and dams have contributed to the near demise of this population.</p> <p><b>The objective:</b></p> <p>Recover the salmon through the use of a captive broodstock program and rear fish for restoration back into the White River in the upper Wenatchee Basin.</p> <p><b>The method:</b></p> <p>Bacterial kidney disease severely limits the viability of this stock in captivity. The Lower Columbia River Fish Health Ctr. is monitoring the stock at the Little White Salmon National Fish Hatchery and providing fish health care in attempts to produce viable smolts that can survive in the White River after their release</p>
<b>Expended</b>	\$7619	
<b>Objective</b>	Recover fish and other aquatic resource populations protected under the Endangered Species Act.	
<b>Primary Benefited Species</b>	Chinook salmon or king salmon ( <a href="#">Oncorhynchus tshawytscha</a> )	
<b>Primary Benefited Population</b>	<a href="#">Wenatchee River (UCWEN) spring chinook salmon</a>	
<b>Plans</b>	<p>U.S. Fish and Wildlife Service National Aquatic Animal Health Policy</p> <p>2000 NMFS FCRPS Biological Opinion - December 21, 2000</p> <p>Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy, 12/2000 (All H Paper)</p> <p>Wenatchee Subbasin Plan</p>	
<b>Keyword</b>	Fish Health	
<b>Need Number</b>	N-002	
<b>Partners</b>	<p>Grant County Public Utility District</p> <p>Washington Department of Fish and Wildlife</p>	

<p><b>Accomplishments</b></p> <table border="1"> <tr> <td data-bbox="248 321 771 447">Number of post-stocking survival tasks met, as prescribed by Recovery plans for hatchery propagated listed species. (PART)</td><td data-bbox="771 321 800 447">1</td></tr> <tr> <td data-bbox="248 447 771 541">Number of other Recovery Plan tasks implemented for T&amp;E populations</td><td data-bbox="771 447 800 541">1</td></tr> <tr> <td data-bbox="248 541 771 636">Number of Fishery Management Plan production tasks implemented (PART)</td><td data-bbox="771 541 800 636">1</td></tr> <tr> <td data-bbox="248 636 771 762">Number of other Fishery Management Plan tasks implemented for populations of management concern.</td><td data-bbox="771 636 800 762">1</td></tr> <tr> <td data-bbox="248 762 771 888">Number of applied science and technology tasks implemented as prescribed by Fishery Management Plans. (PART)</td><td data-bbox="771 762 800 888">1</td></tr> </table>	Number of post-stocking survival tasks met, as prescribed by Recovery plans for hatchery propagated listed species. (PART)	1	Number of other Recovery Plan tasks implemented for T&E populations	1	Number of Fishery Management Plan production tasks implemented (PART)	1	Number of other Fishery Management Plan tasks implemented for populations of management concern.	1	Number of applied science and technology tasks implemented as prescribed by Fishery Management Plans. (PART)	1	<p>from the hatchery.</p>
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